

FORM PCT 1390
REV. 5/93

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

ATTORNEY'S DOCKET NO.
MAYR, R ET AL-1 (PCT)TRANSMITTAL LETTER TO THE UNITED STATES
DESIGNATED/ELECTED OFFICE (DO/EO/US)
CONCERNING A FILING UNDER 35 U.S.C. 371

U.S. APPLICATION NO. (if known, see 37 CFR 1.5)

09/674205

INTERNATIONAL APPLICATION NO.
PCT/AT00/00052INTERNATIONAL FILING DATE
FEBRUARY 28, 2000PRIORITY DATE CLAIMED
MARCH 1, 1999TITLE OF INVENTION
MILL SAWAPPLICANT(S) FOR DO/EO/US
REINHOLD MAYR ET AL

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☒ This is an express request to begin national examination procedures (35 U.S.C. 371 (f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1).
4. ☒ A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.
5. ☒ A copy of the International Application as filed (35 U.S.C. 371(c)(2))
 - a. ☒ is transmitted herewith (required only if not transmitted by the International Bureau)
 - b. ☐ has been transmitted by the International Bureau.
 - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☒ A translation of the International Application into English (35 U.S.C. 371(c)(2)).
7. ☐ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)).
 - a. ☐ are transmitted herewith (required only if not transmitted by the International Bureau).
 - b. ☐ have been transmitted by the International Bureau.
 - c. ☐ have not been made; however, the time limit for making such amendments has **NOT** expired.
 - d. ☐ have not been made and will not be made.
8. ☐ A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10. ☐ A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11. to 16. below concern other document(s) or information included:

11. ☒ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. ☒ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. ☒ A **FIRST** preliminary amendment.
☐ A **SECOND** or **SUBSEQUENT** preliminary amendment.
14. ☐ A substitute specification.
15. ☐ A change of power of attorney and/or address letter.
16. ☒ Other items or information:

PCT/ISA/210 - Int'l. Search Report (English)
Small Entity Declaration
3 sheets of Formal Drawings

APPLICATION NO. (if known, see 37 CFR 1.5)

09/ 674205

INTERNATIONAL APPLICATION NO
PCT/AT00/00052ATTORNEY'S DOCKET NO
MAYR, R. ET AL-1 PCT☒ The following fees are submitted:

Basic National Fee (37 CFR 1.492(a)(1)-(5)):

Search Report has been prepared by the EPO or JPO.....\$840.00

International preliminary examination fee paid to USPTO (37 CFR 1.482)
.....\$670.00Neither international preliminary examination fee paid (37 CFR 1.82) nor
international search fee (37 CFR 1.445(a)(2)) paid to USPTO.....\$970.00International preliminary examination fee paid to USPTO (37 CFR 1.482)
and all claims satisfied provisions of PCT Article 33(2)-(4).....\$96

ENTER APPROPRIATE BASIC FEE AMOUNT =

\$ 860.00

Surcharge of \$130.00 for furnishing the oath or declaration later than 20 30
months from the earliest claimed priority date (37 CFR 1.492(c)).

Claims	Number Filed	Number Extra	Rate		
Total Claims	5 - 20 =	- 0 -	X \$18.00	\$	
Independent Claims	1 - 3 =	2	X \$78.00	\$	
Multiple dependent claim(s) (if applicable)			+ \$260.00	\$	
TOTAL OF ABOVE CALCULATIONS =				\$	
Reduction by 1/2 for filing by small entity, if applicable. Verified Small Entity statement must also be filed (Note 37 CFR 1.9, 1.27, 1.28).				\$ 430.00	
SUBTOTAL =				\$ 430.00	
Processing fee of \$130.00 for furnishing the English translation later than 20 30 months from the earliest claimed priority date (37 CFR 1.492(f)).				\$	
TOTAL NATIONAL FEE =				\$ 430.00	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property +				See cover sheet attached to assign \$ to be charged to Deposit Acct.	
TOTAL FEES ENCLOSED =				\$ 430.00	
				Amount to be: refunded	\$
				charged	\$

a. ☒ A check in the amount of \$430.00 to cover the above fees is enclosed.b. ☐ Please charge my Deposit Account No. 03-2468 in the amount of \$_____ to cover the above fees. A duplicate
copy of this sheet is enclosed.c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any
overpayment, to Deposit Account No. 03-2468. A duplicate copy of this sheet is enclosed.NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or
(b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:

COLLARD & ROE, P.C.

1077 Northern Boulevard

Roslyn, New York 11576-1696

(516) 365-9802

Express Mail No. **EL 621 998 760 US**Date of Deposit **October 27, 2000**I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee"
service under 37 CFR 1.10, on the date indicated above, and is addressed to the Asst. Commissioner for Patents, Washington, D.C.

20231

Signature

Edward R. Freedman

Reg. No. 26,048

Lisa L. Vulpis

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT OR PATENTEE: REINHOLD MAYR ET AL
SERIAL or PATENT NO.: PCT/AT2000/00052
FILED or ISSUED: February 28, 2000
GROUP:
TITLE: Mill Saw

SMALL ENTITY DECLARATION

[] FOR INDEPENDENT INVENTOR(S)

As a below-named inventor, I hereby declare that I am an independent inventor who (1) has not assigned, granted, conveyed, or licensed, and (2) is under no obligation under contract or law, to assign, grant, convey, or license, any rights in the invention, to any person who could not likewise be classified as an independent inventor if that person had made the invention, or to any concern which would not qualify as a small business concern or a nonprofit organization, as defined in 37 CFR 1.9(c).

[X] FOR SMALL BUSINESS CONCERN

I hereby declare that Wintersteiger GmbH is a business concern which qualifies as a small business concern as defined in §1.9(d) - namely, (1) whose number of employees, including those of its affiliates, does not exceed 500 persons; and (2) which has not assigned, granted, conveyed, or licensed, and is under no obligation under contract or law to assign, grant, convey, or license, any rights in the invention to any person who could not be classified as an independent inventor if that person had made the invention, or to any concern which would not qualify as a small business concern or a nonprofit organization under this section; and that the exclusive rights to the invention have been conveyed to and remain with the above-identified small business concern.

I further declare that all statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true; and further, that these statements were made with the knowledge that willful, false statements and the like, so made, are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful, false statements may jeopardize the validity of the patent application or any patent issuing thereon.

Each of the undersigned hereby grants the firm of COLLARD & ROE, P.C., 1077 Northern Boulevard, Roslyn, New York 11576, U.S.A., the power to insert in this Small Entity Declaration any further identification which may be necessary or desirable to comply with the rules of the U.S. Patent and Trademark Office for filing and acceptance of this Declaration.

INVENTOR(S)

Name: _____

Date: _____

Name: _____

Date: _____

Name: _____

Date: _____

Name: _____

SMALL BUSINESS CONCERN:

By 

Name: PETER KUCHNER

Title: GENERAL MANAGER

Date: 11-10-00

By _____

Name: _____

Title: _____

Date: _____

PATENTIN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: REINHOLD MAYR ET AL-1 (PCT)
PCT No.: PCT/AT00/00052 FILED: FEBRUARY 28, 2000
TITLE: MILL SAW

PRELIMINARY AMENDMENT**BOX PCT**

Ass't. Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

Preliminary to the initial Office Action, please amend the
above-identified application as follows:

IN THE CLAIMS

Please amend the claims as follows:

Claim 3, line 1, delete "or 2";

Claim 4, line 1, delete "one of the Claims 1 to 3", and
insert --Claim 1--;

Claim 5, line 1, delete "one of the Claims 1 to 4", and
insert --Claim 1--.

002201-5024290

REMARKS

By this Preliminary Amendment, the multiple dependency of certain of the dependent claims has been removed so as to avoid the surcharge associated therewith. Entry of this amendment is respectfully requested.

Respectfully submitted,
REINHOLD MAYR ET AL

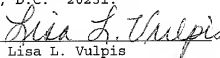
By: 

Allison C. Collard, Reg. No. 22,532
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Date of Deposit: October 27, 2000

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Lisa L. Vulpis

05674205-102700

Mill Saw

Field of the Invention

[0001] The invention relates to a mill saw with a saw gate driven via a slider-crank drive, whose parallel saw blades, which cut only in one stroke direction, are provided with a bias, and with a feed conveyor for the stock to be cut, which is driven intermittently during the cutting stroke of the saw gate as a function of the cutting speed by means of at least one motor separated from the slider-crank drive and connected to a controlling system.

Description of the Prior Art

[0002] To ensure, in spite of the sinusoidal speed gradient, regular chip thicknesses over the cutting stroke in case of mill saws with a saw gate driven via a slider-crank drive, the saw blades of which cut in only one stroke direction, the feed conveyor for the stock to be cut must be driven intermittently as a function of the cutting speed. To this end it is common practice to derive the feed drive for the feed conveyor from the slider-crank drive, for instance via a ratchet drive, whereby the feed conveyor for the stock to be cut is connected with the slider-crank drive only during the cutting stroke. As the saw blades are provided with a bias relative to stroke direction, so that the saw blades are disengaged from the stock to be cut

[0003] Problems are similar when the feed conveyor for the stock to be cut is equipped with a motor separated from the slider-crank drive of the saw gate that is driven intermittently as a function of the slider-crank drive, for instance by joining up the hydraulic motor of the feed drive intermittently into the pump circuit via a reversing valve (DE 34 06 455 A). Here the reversing valve is controlled via a reversing shaft that is in a driving connection with the slider-crank drive. By intermittently reversing the control valve via the reversing shaft, however, irregular saw blade stress cannot be avoided.

[0004] The invention has therefore the objective to design a mill saw of the above mentioned kind in such a way that favorable cutting features are ensured to guarantee a long service life of the saw blades at comparatively high cutting rates.

[0005] The objective of the invention is achieved in that the controlling system connected to a signal transmitter for a preset position of rotation of the slider-crank drive controls the motor in dependence on the response of the signal transmitter according to a stored control program for a conveying step adaptable to the respective stroke frequency of the slider-crank drive.

[0007] Although basically each position of rotation of the slider-crank drive is suitable for cycling the controlling system, particularly favorable constructional features are achieved, if the signal transmitter consists of a sensor for the dead center of the slider-crank drive at the end of the cutting stroke, as in this case the signal transmitter can be easily assigned with the saw gate guide, without having to provide complex adjustment facilities. The dead center at the end of a cutting stroke makes it possible for the feed drive to set in already with the next cutting stroke in spite of the lead necessary for overcoming the saw blade disengagement.

[0008] The conveying distance of the stock to be cut for overcoming the saw blade disengagement depends only on the chosen bias of the saw blades, and is independent of

the stroke frequency of the saw gate. Therefore, the controlling system may be provided with memories for a control program dependent on the speed of the slider-crank drive and one independent thereof, which latter provides for feeding the stock to be cut according to the saw blade disengagement determined by the bias of the saw blades. This subdivision of the control program into one part dependent on the stroke frequency of the saw gate and one independent thereof is particularly recommended, if the controlling system is connected to an input unit for different control parameters, via which, for instance, the feed shall be varied to adapt to various chip thicknesses.

[0009] If the feed drive is provided with two motors separately controllable via the controlling system and assigned with the feed conveyor in feed direction upstream and downstream of the saw gate, the feed conveyors upstream and downstream of the saw gate may be driven at different speeds, whereby the application of tensile forces and/or forces of pressure to the stock to be cut in the cutting area becomes possible.

Brief Description of the Drawing

[0010] The drawing depicts an example of the subject matter of the invention.

Fig. 1 represents a schematic side view of the mill saw according to the invention.

Fig. 2 is a schematic block diagram of the slider-crank drive for the saw gate and the feed drive for the stock to be cut.

Fig. 3 depicts the stroke gradient related to time of the saw gate driven via the slider-crank drive and

Fig. 4 shows the speed gradient related to time of the saw gate on the one hand, and the speed gradient related to time of the feed drive on the other hand.

Description of the Preferred Embodiment

[0011] In the example of embodiment according to Fig. 1 the stand 1 of a mill saw is provided with a stroke guide 2 for a saw gate 3 that can be driven to and fro by means of a slider-crank drive 4. The parallel saw blades 5 of the saw gate 3 are gripped conventionally

into a gate frame, which is borne in the saw gate 3 with an adjustable bias. For guiding the stock to be cut a feed conveyor 6 is provided, which consists of driven conveyor rolls 7 arranged upstream and downstream of the saw gate 3, to which rolls 7 the stock to be cut is pressed via snubber rolls 8, which can be set via adjustment cylinders 9. Contrary to conventional feed conveyors 6 the conveyor rolls 7 are not driven via the slider-crank drive 4, but via separate motors 10 with a driving connection via chain drives 11 according to Fig. 2. For controlling these motors 10, designed as gear motors, there is a controlling system 12 comprising a computer unit 13 according to Fig. 2, via which the setpoints are preset to the position controllers 14 for the motors 10. On the basis of these setpoints the motors 10 are controlled according to the requirements of feed via a setpoint/actual-value adjustment. The selection of setpoints is effected via control programs stored in the program memories 15 and 16. In this connection the arrangement has been chosen such that the feed conveyor 6 performs one conveying step each via the motors 10, as soon as the controlling system 12 is triggered via a signal transmitter 17 for the dead center of the slider-crank drive 4 at the end of a cutting stroke.

[0012] By the example of Fig. 3 and Fig. 4 the control sequence for the motors 10 can be explained in detail. Fig. 3 shows the gradient 18 of the stroke h of the saw gate 3 over the time t around a mean stroke position h_m between an upper dead center h_o and a lower dead center h_u , with the cutting stroke in cutting direction of the saw blades ensuing from the downward movement of the saw gate 3 from the upper dead center h_o to the lower dead center h_u . Due to the sinusoidal stroke gradient 18 related to time of the saw gate 3 the speed gradient related to time for the saw gate 3 corresponds with the characteristic 19 of Fig. 4. The speed v above the time base t is equivalent to the cutting speed of the saw blades 5 during the cutting stroke.

[0013] To be able to ensure a regular chip thickness over the cutting stroke, the feed conveyor 6 must be driven in phase with the saw gate 3. An appropriate rate of feed v_s for the feed conveyor 6 is depicted in Fig. 4, from which it can also be inferred that, according to the speed gradient 19 below the time base t , there must not be any feed of the stock to be cut during the return stroke of the saw gate 3.

[0014] The bias of the saw blades 5 necessary for the disengagement of the saw blades 5 during the return stroke requires that the disengagement of the saw blades 5 against the bottom of the cutting grooves must be overcome first, before the saw blades 5 are able to engage into the stock to be cut. This means that the feed conveyor 6 must be driven to lead in such a way that the stock to be cut is set to cutting position to the saw blades 5 at the beginning of a cutting stroke. To this end the stock to be cut must be conveyed, prior to the cutting stroke, by a distance equivalent to the disengagement of the saw blades 5, which distance is determined by the adjusted bias, so that the necessary setting of the stock to be cut can be ensured at an appropriate speed gradient v_a via the feed drive.

[0015] As the time period required for the advanced setting of the stock to be cut is determined at a speed gradient v_a selected by the program, only a lead time t_v needs to be allowed for to control, after response of the signal transmitter 17 at the time t_{s1} in the lower dead center h_u of the saw gate 3, the motors 10 according to the speed gradients v_a and v_s , which are ensured by the control programs in the memories 15 and 16. Each time the controlling system 12 is triggered via the signal transmitter 17 at the time t_s , the feed drive is actuated according to the speed gradients v_a and v_s after a lead time t_v , whereby the desired intermittent feed drive is ensured. As can be inferred from Fig. 3 and Fig. 4, the time control of the motors 10 depends on the stroke frequency of the slider-crank drive. Therefore the speed gradient v_s must be adapted to the respective stroke frequency, just as it is also necessary to adapt the lead time t_v to the stroke frequency. For this purpose the control program stored in the memory 16 that depends on the stroke frequency of the saw gate 3 is computed with the respective stroke frequency in the computer unit 13 in such a way that the respective setpoints can be preset to the position controllers 14 as a function of the respective stroke frequencies. The stroke frequency proper is input to the computer unit 13 via an averaging unit 20, so that possible variations can be compensated.

[0016] To be able to adapt the rates of feed to the various requirements, the parameters to be preset for this purpose can be entered to the controlling system 12 via an input unit 21. Via these parameters, for instance, the amplitudes of the speed gradients v_s may be varied,

as this is outlined in dashes in Fig. 4. Via appropriate parameters, however, it is also possible to allow for variations in the area of the bias of the saw blades 5 to adapt the speed gradient v_a accordingly.

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Claims

1. Mill saw with a saw gate (3) driven via a slider-crank drive (4), whose parallel saw blades (5), which cut in only one stroke direction, are provided with a bias, and with a feed conveyor (6) for the stock to be cut, which can be driven intermittently during the cutting stroke of the saw gate (3) as a function of the cutting speed by means of at least one motor (10) separated from the slider-crank drive (4) and connected to a controlling system (12), characterised in that the controlling system (12) connected to a signal transmitter (17) for a preset position of rotation of the slider-crank drive (4) controls the motor (10) in dependence on the response of the signal transmitter (17) according to a stored control program for one conveying step adaptable to the respective stroke frequency of the slider-crank drive (4).
2. Mill saw according to Claim 1, characterised in that the signal transmitter (17) consists of a sensor for the dead center of the slider-crank drive at the end of a cutting stroke.
3. Mill saw according to Claim 1 or 2, characterised in that the controlling system (12) is provided with memories (15, 16) for a control program dependent on the speed of the slider-crank drive and one independent thereof for feeding the stock to be cut according to the saw blade disengagement determined by the bias of the saw blades (5).

Abstract of the Disclosure

Mill Saw

The description refers to a mill saw with a saw gate (3) driven via a slider-crank drive (4), whose parallel saw blades (5), which cut in only one stroke direction, are provided with a bias, and with a feed conveyor (6) for the stock to be cut, which is driven intermittently during the cutting stroke of the saw gate (3) as a function of the cutting speed by means of at least one motor (10) separated from the slider-crank drive (4) and connected to a controlling system (12). To achieve favorable construction features, it is suggested that the controlling system (12) connected to a signal transmitter (17) for a preset position of rotation of the slider-crank drive (4) controls the motor (10) in dependence on the response of the signal transmitter (17) according to a stored control program for one conveying step adaptable to the respective stroke frequency of the slider-crank drive (4).

(Fig. 2)

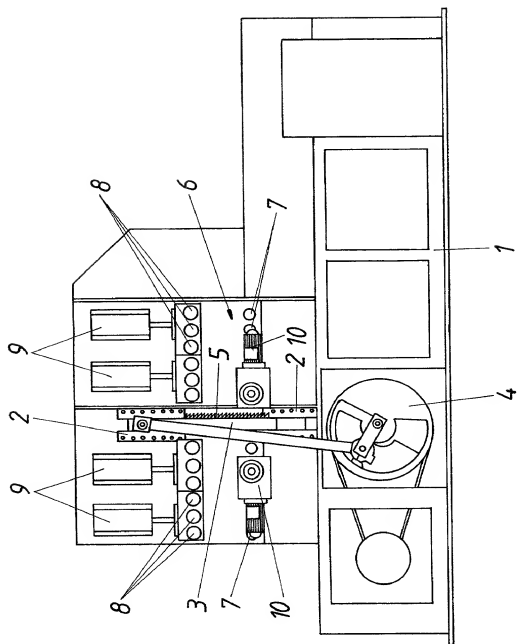
FIG.1

FIG. 2

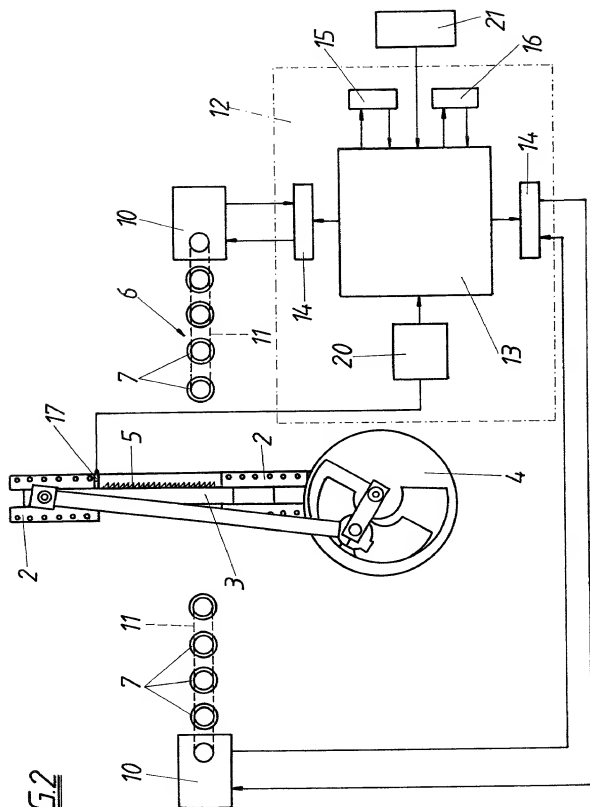
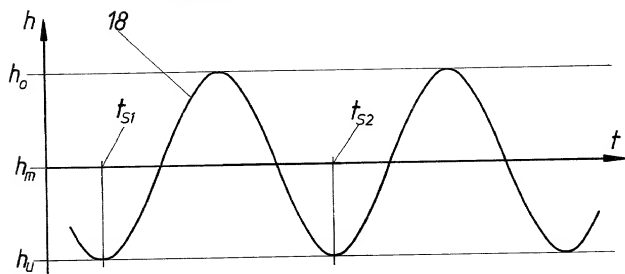
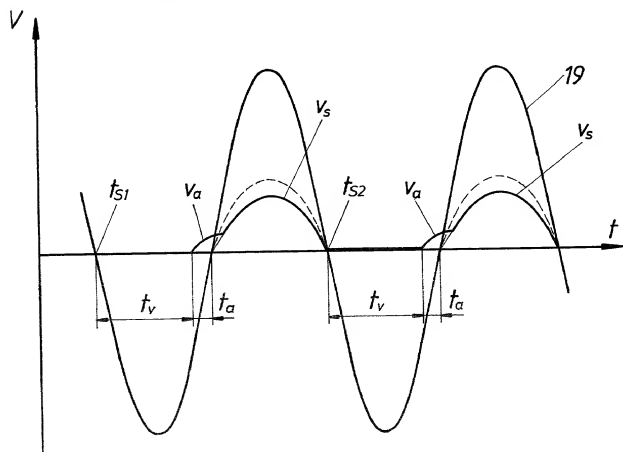


FIG.3FIG.4

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

Mill Saw

the specification of which (check only one item below):

- ☐ is attached hereto.
- ☐ was filed as United States application
Serial No. _____
on _____
and was amended
on _____ (if applicable).
- ☒ was filed as PCT international application
Number PCT/AT 2000/052
on February 28, 2000
and was amended under PCT Article 19
on _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate or of any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed:

PRIOR FOREIGN/PCT APPLICATION(S) AND ANY PRIORITY CLAIMS UNDER 35 U.S.C. 119:

COUNTRY (if PCT, indicate "PCT")	APPLICATION NUMBER	DATE OF FILING (day, month, year)	PRIORITY CLAIMED UNDER 35 USC 119
Austria	A 333/99	01, 03, 1999	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
			<input type="checkbox"/> YES <input type="checkbox"/> NO
			<input type="checkbox"/> YES <input type="checkbox"/> NO
			<input type="checkbox"/> YES <input type="checkbox"/> NO
			<input type="checkbox"/> YES <input type="checkbox"/> NO

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) or PCT international application(s) designating the United States of America that is/are listed below and, insofar as the subject matter of each of the claims of this application is not disclose in that/those prior application(s) in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application(s) and the national or PCT international filing date of this application:

PRIOR U.S. APPLICATIONS OR PCT INTERNATIONAL APPLICATIONS DESIGNATING THE U.S. FOR BENEFIT UNDER 35 U.S.C. 120:

U.S. APPLICATIONS			STATUS (Check One)		
U.S. APPLICATION NUMBER	U.S. FILING DATE		PATENTED	PENDING	ABANDONED
PCT APPLICATIONS DESIGNATING THE U.S.					
PCT APPLICATION NO.	PCT FILING DATE	U.S. SERIAL NUMBERS ASSIGNED (if any)			

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. (List name and registration numbers):

KURT KELMAN, Registration No. 18,628

ELIZABETH COLLARD RICHTER, Reg. No. 35,103

ALLISON C. COLLARD, Registration No. 22,532;

WILLIAM C. COLLARD, Registration No. 38,411

EDWARD R. FREEDMAN, Registration No. 26,048;

FREDERICK J. DORCHAK, Registration No. 29,298

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COLLARD & ROE, P.C.
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Roslyn, New York 11576

Direct Telephone Calls to:
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2	FULL NAME OF INVENTOR	FAMILY NAME	FIRST GIVEN NAME	SECOND GIVEN NAME
0	RESIDENCE & CITIZENSHIP	CITY	STATE OR FOREIGN COUNTRY	COUNTRY OF CITIZENSHIP
1	POST OFFICE ADDRESS	CITY	STATE & ZIP CODE/COUNTRY	
2	FULL NAME OF INVENTOR	FAMILY NAME	FIRST GIVEN NAME	SECOND GIVEN NAME
0	RESIDENCE & CITIZENSHIP	CITY	STATE OR FOREIGN COUNTRY	COUNTRY OF CITIZENSHIP
2	POST OFFICE ADDRESS	CITY	STATE & ZIP CODE/COUNTRY	
2	FULL NAME OF INVENTOR	FAMILY NAME	FIRST GIVEN NAME	SECOND GIVEN NAME
0	RESIDENCE & CITIZENSHIP	CITY	STATE OR FOREIGN COUNTRY	COUNTRY OF CITIZENSHIP
3	POST OFFICE ADDRESS	CITY	STATE & ZIP CODE/COUNTRY	

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

SIGNATURE OF INVENTOR 201	SIGNATURE OF INVENTOR 202	SIGNATURE OF INVENTOR 203
DATE	DATE	DATE